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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,456	08/20/2003	Laura J. Ball	SP01-192A	5937
22928	7590	09/24/2004	EXAMINER	
CORNING INCORPORATED			LOPEZ, CARLOS N	
SP-TI-3-1				
CORNING, NY 14831			ART UNIT	PAPER NUMBER
			1731	

DATE MAILED: 09/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/644,456	Applicant(s) BALL ET AL.	
	Examiner Carlos Lopez	Art Unit 1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10,12,13 and 20-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10,12,13 and 20-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4,7-8, 10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fleming, Jr. et al (US 4,011,006) in view of Gouskov et al (US 6,253,580). Fleming discloses a method of making glass suitable for incorporation in devices such as lenses and optical transmission lines (Col.1, lines 10-13). Fleming's method, as best shown in figure 3, comprises passing silica powder into a plasma to thus produce and deposit silica particles onto a rotating horizontal depositing surface. Fleming is silent depositing and consolidating the particles at the same time. However, Gouskov teaches that depositing and consolidating the silica into one single step is cheaper than a multi-stage process that requires a separate deposition and consolidation steps (Col. 3 lines 15-17 and Col. 6, lines 61-65). Hence, at the time the invention was made it would have been obvious to a person of ordinary skill in the art to have deposited and consolidate the particles of Fleming at the same time as taught by Gouskov because its less expensive than a multi-stage process that requires separate deposition and consolidation steps.

As for claim 2, Fleming's powder size ranges from mesh size 20 to 100 corresponds to a particle size range of 149µm to 841µm, which overlaps with the claimed range of 0.1 to 300µm. Thus it would have been obvious to a person of

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ordinary skill in the art to have provided at the very least a particle size in the range of 149 μ m as taught by Fleming to deposit the silica powders to onto the rotating surface.

As for claims 3-4, Fleming adds a Germanium or Borate dopant (Col. 3, lines 52-54).

Claims 5-6 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fleming, Jr. et al (US 4,011,006) in view of Gouskov et al (US 6,253,580) and in further view of Brown et al (US 6,541,168). Fleming adds germanium and borate dopants but is silent adding dopants such as F₂, CF₄, and SiF₄. However, Brown discloses the addition of the claimed fluorine compounds into the soot particles (Col. 12, lines 62ff) are conventionally added to the silica for reducing optical damage to the glass caused by infrared light (Col. 18, lines 46ff). At the time the invention was made it would have been obvious to a person of ordinary skill in the art to have doped the soot particles forming the glass derived by the teachings of Fleming and Gouskov with fluorine as taught by Brown in order to reduce optical damage to the glass caused by infrared light.

As for claim 10, Brown notes that a fluorinated glass having no OH content is suitable for the use as a photomask substrate at 157nm (Abstract). Thus it would be obvious to a person of ordinary skill in the art to have made the silica preform derived from the teachings of Fleming and Gouskov, in an enclosure having a low water content to thus avoid the incorporation of OH into the glass.

Claims 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fleming, Jr. et al (US 4,011,006) in view of Gouskov et al (US 6,253,580) as applied to

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claim 1 above and in further view of Drouart et al (US 6,477,864). Fleming and Gouskov use synthetic silica quartz but are silent disclosing using natural silica quartz. However, Drouart teaches that either natural or synthetic silica may be used as silica sources for the production of glass preforms (See Col. 1, lines 45 to Col. Line 13). Hence at the time the invention was made it would have been obvious to a person of ordinary skill in the art to have used either natural or synthetic silica in order to produce the desired glass preform. The use of natural or synthetic silica does not provide an unexpected result and one of ordinary skill in the art would readily see that synthetic silica can be substituted with natural silica with reasonable expectation of success.

Claims 20-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fleming, Jr. et al (US 4,011,006) in view of Gouskov et al (US 6,253,580) and in further view of Priestley et al (US 2002/0090518A1) and/or alternatively in view of Brown (US 6,541,168). Fleming discloses a method of making glass suitable for incorporation in devices such as lenses and optical transmission lines (Col.1, lines 10-13). Fleming's method, as best shown in figure 3, comprises passing silica powder into a plasma to thus produce and deposit silica particles onto a rotating horizontal depositing surface. Fleming is silent depositing and consolidating the particles at the same time. However, Gouskov teaches that depositing and consolidating the silica into one single step is cheaper than a multi-stage process that requires a separate deposition and consolidation steps (Col. 3 lines 15-17 and Col. 6, lines 61-65). Hence, at the time the invention was made it would have been obvious to a person of ordinary skill in the art to have deposited and consolidate the particles of Fleming at the same time as taught by

Gouskov because its less expensive than a multi-stage process that requires separate deposition and consolidation steps.

Additionally, in view of Fleming, which teaches that the disclosed method can be used to make glass for incorporation within devices, it would have thus been obvious to a person of ordinary skill in the art, at the time the invention was made, to have used Fleming's silica glass as an optical device such as a photomask. The forming of a photomask requires cutting the glass from the preform into blanks and finishing them as taught by Brown and/ or alternatively by Priestley (See Brown figure 11 and Col. 11 lines 46ff and/or Priestley figure 13 and Paragraph 51). Hence at the time the invention was made it would have been obvious to a person of ordinary skill in the art to have processed the resulting glass preform derived from the teachings of Fleming and Gouskov as taught by Brown and/ or alternatively by Priestley in order to provide a photomask substrate if desired.

In regards to claims 24-25 and 28, Brown discloses the addition of the claimed fluorine compounds into the soot particles (Col. 12, lines 62ff) are conventionally added to the silica for reducing optical damage to the glass caused by infrared light (Col. 18, lines 46ff)

As for claim 29, Brown notes that a fluorinated glass having no OH content is suitable for the use as a photomask substrate at 157nm (Abstract). Thus it would be obvious to a person of ordinary skill in the art to have made the silica preform derived from the teachings of Fleming and Gouskov, in an enclosure having a low water content to thus avoid the incorporation of OH into the glass.

Response to Arguments

Applicant's arguments filed 6/28/04 have been fully considered but they are not persuasive. Applicant is arguing intended use limitations recited in the preamble of the claim that does not patentably distinguish the claimed active steps from the teachings of Fleming and Gouskov.

In response to applicant's argument that Fleming and Gouskov fail to teach a method of making fused silica for the use in photolithography at shorter than 193nm, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). In the instant case applicant does not show or compare the manipulative differences in making a fuse glass for a photolithography at shorter than 193nm to that of making a fused glass for an optical fiber.

In response to applicant's arguments, the recitation "method of making fused silica for the use in photolithography at shorter than 193nm" has been considered but is deemed as reciting intended use limitation, which fails to provide any manipulative difference as compared to the prior art. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for

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completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). In fact as noted above Brown notes that the use of a fluorinated silica glass having no OH content, provides for a glass photomask substrate at 157nm, well below applicant's value of 193nm.

In response to applicant's arguments that the Gouskov fails to disclose depositing of soot onto a horizontal rotating surface, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In fact Gouskov's figure 1 explicitly shows a rotating preform 24 orientated in a horizontal manner which would read on the claimed rotating horizontal surface.

Applicant also argues that Fleming fails to disclose a .1 μ m to 300 μ m because it was previously noted that the mesh size 20 to 100 corresponds to a particle size of 149 μ m to 841 μ m. It is clear that the previously recited corresponding particle size values were a typing error. A mesh size of 20 to 100 corresponds to a particle size range of 100 μ m to 500 μ m. Even if the wrong corresponding particle size was incorrectly noted, it is clear one would readily see that the mesh size of 20 to 100 does not correspond to 149 μ m to 841 μ m but by definition would see that it actually corresponds to a particle size of 100 μ m to 500 μ m.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Lopez whose telephone number is 571.272.1193. The examiner can normally be reached on Mon.-Fri. 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571.272.1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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